Antibiotic Resistance Fact Sheet

What is antibiotic resistance?

Antibiotics are drugs that doctors prescribe to treat infections that are caused by bacteria. The antibiotics are designed to kill the bacteria that are causing the infection. Sometimes bacteria change in a way that an antibiotic that used to kill them cannot kill them anymore. Then that antibiotic is no longer effective against those bacteria and another, often more powerful, antibiotic has to be used. When this process happens, the new, changed bacteria are called 'antibiotic resistant' because they are resistant to being killed by the antibiotic.

Why are public health officials concerned about antibiotic resistance?

Antibiotic resistance is a growing problem. Almost all important bacterial infections in the U.S. and worldwide are developing resistance to antibiotics. It is sometimes hard to find another antibiotic to use to treat infections when the bacteria become antibiotic resistant. More powerful and expensive drugs might be needed, and there is a risk that bacteria could become resistant to them, too, leaving few options for the treatment of serious infections. People who develop infections from bacteria that are resistant to antibiotics have increased risk of hospitalization and transfer to an intensive care unit, higher hospital costs, longer length of stay in the hospital, and higher risk of death.

What causes antibiotic resistance?

Antibiotic resistance is due to the misuse and overuse of antibiotics. Antibiotics are often over-prescribed due to demands from patients, time pressure on physicians, and uncertainty about the diagnoses. Using antibiotics when they are not really needed give bacteria an opportunity to adapt and change to new forms that are resistant to the antibiotics being used.

When and how should antibiotics be used?

Many illnesses, such as the common cold and the flu, are caused by viruses. Antibiotics are not effective against viruses. Antibiotics are only helpful when used to treat an infection caused by bacteria and when taken exactly as prescribed. It is also important to not overuse antibiotics. Overuse can eliminate "good" bacteria from the body, increasing the risk for developing a gastrointestinal illness called *Clostridium difficile*.

What can be done to prevent antibiotic resistance?

Talk with your doctor about antibiotic resistance. Trust that he or she will give you an antibiotic *only* when you need it. Remember that many illnesses (like the common cold or the flu) do not need an antibiotic. If your doctor prescribes an antibiotic, take it exactly as the doctor tells you. Take all of the medication in the time frame described, even if the symptoms go away. Do not save some of your antibiotic for the next time you get sick. Lastly, do not take an antibiotic that is prescribed for someone else.

How can I get more information about antibiotic resistance?

- If you have concerns about disease, contact your healthcare provider.
- Call your local health department. A directory of local health departments is located at

http://www.vdh.virginia.gov/local-health-districts/.

- Visit the Centers for Disease Control and Prevention website at http://www.cdc.gov/drugresistance/index.html.

January 2013